Journal of Experimental and Theoretical Physics 2003 vol.96 N3, pages 572-580

# Stochastic processes of demarkovization and markovization in chaotic signals of human brain electric activity from EEGs during epilepsy

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## Abstract

We study the stochastic processes of markovization and demarkovization in chaotic signals of human electroencephalograms (EEGs) during epilepsy using various measures of demarkovization and markovization, namely, the statistical spectrum of a non-Markovity parameter, power spectra of the time correlation function and memory functions of junior orders, and local relaxation and kinetic parameters. The results demonstrate the superiority of the new measures in comparison to the traditional nonlinear measures. We conclude that the applied measures are more appropriate for the quantification of markovization and demarkovization in EEG data and the prediction of epilepsy seizure. © 2003 MAIK "Nauka/Interperiodica".

http://dx.doi.org/10.1134/1.1567432